GenCore version 5.1.8 Copyright (c) 1993 - 2006 Biocceleration Ltd.

OM protein - protein search, using sw model

Run on: May 21, 2006, 13:52:27; Search time 25.2468 Seconds

(without alignments)

1303.914 Million cell updates/sec

Title: US-10-517-309-1 49TO59 AND4

Perfect score: 379

Sequence: 1 DWKIQKGMIRPLEATSLNPV......GSGVKNFKAGDKVVAVLSHL 72

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2589679 segs, 457216429 residues

Total number of hits satisfying chosen parameters: 2589679

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A Geneseq 8:*

1: geneseqp1980s:*

2: geneseqp1990s:*

3: geneseqp2000s:*

4: geneseqp2001s:*

5: geneseqp2002s:*

6: geneseqp2003as:*

7: geneseqp2003bs:*

8: geneseqp2004s:*
9: geneseqp2005s:*

10: geneseqp2006s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		ક				
Result		Query				
No.	Score	Match	Length	DB	ID	Description
1	316	83.4	61	8	ADG93324	Adg93324 A thalian
2	316	83.4	324	3	AAG39983	Aag39983 Arabidops
3	316	83.4	329	3	AAG39982	Aag39982 Arabidops
4	316	83.4	329	5	ABB92914	Abb92914 Herbicida
5	316	83.4	329	8	ADG93321	Adg93321 Arabidops
6	316	83.4	329	8	ADJ63876	Adj63876 Plant lip
7	316	83.4	354	3	AAG39981	Aag39981 Arabidops
8	313	82.6	262	3	AAG05068	Aag05068 Arabidops
9	313	82.6	267	3	AAG05067	Aag05067 Arabidops
10	313	82.6	292	3	AAG05066	Aag05066 Arabidops
11	248	65.4	329	8	ADG93323	Adg93323 Spinacia
12	247	65.2	61	8	ADG93325	Adg93325 S olerace

```
XX
PR
     21-JUN-2002; 2002FR-00007729.
XX
     (GENO-) GENOPLANTE-VALOR.
PA
XX
PΙ
    Miras S, Salvi D, Rolland N, Joyard J, Ferro M, Garin J;
    Grunwald D;
ΡI
XX
DR
    WPI; 2004-082507/08.
XX
PT
    New intraplastid targeting peptide, useful for delivering fused
PT
    heterologous sequences for preparing transgenic plants having altered
    characteristics.
PT
XX
    Claim 1; SEQ ID NO 4; 63pp; French.
PS
XX
CC
    This invention relates to a novel intraplastid targeting peptide. The
CC
    peptide may be used to transport selected proteins to plasts,
CC
     specifically chloroplasts, to create transgenic plants having altered
CC
     characteristics. These altered characteristics include, for example,
     improved biosynthesis of lipids, starch, vitamins, hormones or proteins;
CC
CC
     increased resistance to diseases and herbicides; more efficient light
CC
     capture; or overexpression of proteins involved in bioremediation. The
CC
     invention does not depend on the TOC or TIC membrane import pathways, so
CC
     does not compete with, or saturate, them, and importation into the
CC
     internal chloroplast membrane is achieved without cleavage of the
CC
     targeting peptide. The present sequence is that of a region the IE41
CC
    protein of Arabidopsis thaliana which is related to the invention.
XX
SQ
     Sequence 61 AA;
                         83.4%; Score 316; DB 8; Length 61;
  Query Match
  Best Local Similarity
                         100.0%; Pred. No. 1e-35;
                                                      Indels
           61; Conservative
                                0; Mismatches
                                                                0; Gaps
                                                                            0;
          12 LEATSLNPVDWKIQKGMIRPFLPRKFPCIPATDVAGEVVEVGSGVKNFKAGDKVVAVLSH 71
Qу
              Db
           1 LEATSLNPVDWKIQKGMIRPFLPRKFPCIPATDVAGEVVEVGSGVKNFKAGDKVVAVLSH 60
          72 L 72
Qу
           61 L 61
Db
RESULT 2
AAG39983
ID
    AAG39983 standard; protein; 324 AA.
XX
AC
    AAG39983;
XX
DT
     18-OCT-2000 (first entry)
XX
DE
     Arabidopsis thaliana protein fragment SEQ ID NO: 49547.
ХX
     Protein identification; signal transduction pathway; metabolic pathway;
KW
KW
     hybridisation assay; genetic mapping; gene expression control; promoter;
KW
     termination sequence.
XX
OS
     Arabidopsis thaliana.
XX
PN
     EP1033405-A2.
```

```
XX
PD
     06-SEP-2000.
XX
     25-FEB-2000; 2000EP-00301439.
PF
XX
     25-FEB-1999;
PR
                    99US-0121825P.
PR
     05-MAR-1999;
                    99US-0123180P.
PR
     09-MAR-1999;
                    99US-0123548P.
PR
     23-MAR-1999;
                    99US-0125788P.
PR
     25-MAR-1999;
                    99US-0126264P.
PR
     29-MAR-1999;
                    99US-0126785P.
PR
     01-APR-1999;
                    99US-0127462P.
PR
     06-APR-1999;
                    99US-0128234P.
PR
     08-APR-1999;
                    99US-0128714P.
PR
     16-APR-1999;
                    99US-0129845P.
PR
     19-APR-1999;
                    99US-0130077P.
PR
     21-APR-1999;
                    99US-0130449P.
PR
     23-APR-1999;
                    99US-0130510P.
PR
     23-APR-1999;
                    99US-0130891P.
PR
     28-APR-1999;
                    99US-0131449P.
PR
     30-APR-1999;
                    99US-0132048P.
PR
     30-APR-1999;
                    99US-0132407P.
PR
     04-MAY-1999;
                    99US-0132484P.
     05-MAY-1999;
                    99US-0132485P.
PR
     06-MAY-1999;
                    99US-0132486P.
     06-MAY-1999;
                    99US-0132487P.
PR
PR
     07-MAY-1999;
                    99US-0132863P.
     11-MAY-1999;
PR
                    99US-0134256P.
PR
     14-MAY-1999;
                    99US-0134218P.
PR
     14-MAY-1999;
                    99US-0134219P.
PR
     14-MAY-1999;
                    99US-0134221P.
     14-MAY-1999;
PR
                    99US-0134370P.
PR
     18-MAY-1999;
                    99US-0134768P.
PR
     19-MAY-1999;
                    99US-0134941P.
PR
     20-MAY-1999;
                    99US-0135124P.
PR
     21-MAY-1999;
                    99US-0135353P.
PR
     24-MAY-1999;
                    99US-0135629P.
     25-MAY-1999;
                    99US-0136021P.
PR
     27-MAY-1999;
PR
                    99US-0136392P.
PR
     28-MAY-1999;
                    99US-0136782P.
PR
     01-JUN-1999;
                    99US-0137222P.
PR
     03-JUN-1999;
                    99US-0137528P.
PR
     04-JUN-1999;
                    99US-0137502P.
PR
     07-JUN-1999;
                    99US-0137724P.
     08-JUN-1999;
PR
                    99US-0138094P.
     10-JUN-1999;
                    99US-0138540P.
PR
PR
     10-JUN-1999;
                    99US-0138847P.
PR
     14-JUN-1999;
                    99US-0139119P.
     16-JUN-1999;
                    99US-0139452P.
     16-JUN-1999;
PR
                    99US-0139453P.
PR
     17-JUN-1999;
                    99US-0139492P.
PR
     18-JUN-1999;
                    99US-0139454P.
PR
     18-JUN-1999;
                    99US-0139455P.
     18-JUN-1999;
PR
                    99US-0139456P.
PR
     18-JUN-1999;
                    99US-0139457P.
PR
     18-JUN-1999;
                    99US-0139458P.
PR
     18-JUN-1999;
                    99US-0139459P.
PR
     18-JUN-1999;
                    99US-0139460P.
PR
     18-JUN-1999;
                    99US-0139461P.
PR
     18-JUN-1999;
                    99US-0139462P.
PR
     18-JUN-1999;
                    99US-0139463P.
```

```
18-JUN-1999;
                     99US-0139750P.
PR
PR
     18-JUN-1999;
                     99US-0139763P.
     21-JUN-1999;
                     99US-0139817P.
PR
     22-JUN-1999;
                     99US-0139899P.
PR
     23-JUN-1999;
                     99US-0140353P.
PR
     23-JUN-1999;
                     99US-0140354P.
PR
PR
     24-JUN-1999;
                     99US-0140695P.
PR
     28-JUN-1999;
                     99US-0140823P.
PR
     29-JUN-1999;
                     99US-0140991P.
PR
     30-JUN-1999;
                     99US-0141287P.
PR
     01-JUL-1999;
                     99US-0141842P.
PR
     01-JUL-1999;
                     99US-0142154P.
PR
     02-JUL-1999;
                     99US-0142055P.
     06-JUL-1999;
                     99US-0142390P.
PR
PR
     08-JUL-1999;
                     99US-0142803P.
PR
     09-JUL-1999;
                     99US-0142920P.
PR
     12-JUL-1999;
                     99US-0142977P.
PR
     13-JUL-1999;
                     99US-0143542P.
PR
     14-JUL-1999;
                     99US-0143624P.
PR
     15-JUL-1999;
                     99US-0144005P.
PR
     16-JUL-1999;
                     99US-0144085P.
     16-JUL-1999;
PR
                    99US-0144086P.
PR
     19-JUL-1999;
                     99US-0144325P.
PR
     19-JUL-1999;
                     99US-0144331P.
     19-JUL-1999;
                    99US-0144332P.
PR
     19-JUL-1999;
                     99US-0144333P.
PR
     19-JUL-1999;
                     99US-0144334P.
     19-JUL-1999;
PR
                     99US-0144335P.
PR
     20-JUL-1999;
                     99US-0144352P.
PR
     20-JUL-1999;
                     99US-0144632P.
PR
     20-JUL-1999;
                     99US-0144884P.
₽R
     21-JUL-1999;
                     99US-0144814P.
     21-JUL-1999;
PR
                     99US-0145086P.
PR
     21-JUL-1999;
                     99US-0145088P.
PR
     22-JUL-1999;
                     99US-0145085P.
PR
     22-JUL-1999;
                     99US-0145087P.
PR
     22-JUL-1999;
                     99US-0145089P.
     22-JUL-1999;
                     99US-0145192P.
PR
PR
     23-JUL-1999;
                     99US-0145145P.
PR
     23-JUL-1999;
                     99US-0145218P.
PR
     23-JUL-1999;
                     99US-0145224P.
PR
     26-JUL-1999;
                     99US-0145276P.
PR
     27-JUL-1999;
                     99US-0145913P.
PR
     27-JUL-1999;
                     99US-0145918P.
     27-JUL-1999;
PR
                     99US-0145919P.
PR
     28-JUL-1999;
                    99US-0145951P.
PR
     02-AUG-1999;
                    99US-0146386P.
     02-AUG-1999;
PR
                    99US-0146388P.
     02-AUG-1999;
PR
                    99US-0146389P.
PR
     03-AUG-1999;
                    99US-0147038P.
PR
     04-AUG-1999;
                     99US-0147204P.
PR
     04-AUG-1999;
                     99US-0147302P.
PR
     05-AUG-1999;
                    99US-0147192P.
PR
     05-AUG-1999;
                    99US-0147260P.
PR
     06-AUG-1999;
                     99US-0147303P.
PR
     06-AUG-1999;
                     99US-0147416P.
PR
     09-AUG-1999;
                     99US-0147493P.
PR
     09-AUG-1999;
                     99US-0147935P.
PR
     10-AUG-1999;
                     99US-0148171P.
     11-AUG-1999;
PR
                     99US-0148319P.
PR
     12-AUG-1999;
                     99US-0148341P.
```

```
PR
     13-AUG-1999;
                      99US-0148565P.
     13-AUG-1999; 99US-0148684P.
PR
     16-AUG-1999; 99US-0149368P.
     17-AUG-1999; 99US-0149175P.
PR
     18-AUG-1999; 99US-0149426P.
PR
     20-AUG-1999; 99US-0149722P.
PR
     20-AUG-1999; 99US-0149723P.
PR
PR
     20-AUG-1999;
                      99US-0149929P.
PR
     23-AUG-1999; 99US-0149902P.
PR
     23-AUG-1999; 99US-0149930P.
PR
     25-AUG-1999; 99US-0150566P.
PR
     26-AUG-1999; 99US-0150884P.
PR
     27-AUG-1999; 99US-0151065P.
PR
     27-AUG-1999; 99US-0151066P.
     27-AUG-1999; 99US-0151080P.
PR
     30-AUG-1999; 99US-0151303P.
PR
     31-AUG-1999; 99US-0151438P.
01-SEP-1999; 99US-0151930P.
07-SEP-1999; 99US-0152363P.
PR
PR
PR
PR
     10-SEP-1999; 99US-0153070P.
     13-SEP-1999; 99US-0153758P.
PR
PR
     15-SEP-1999; 99US-0154018P.
PR
     16-SEP-1999; 99US-0154039P.
     20-SEP-1999; 99US-0154779P.
PR
     22-SEP-1999; 99US-0155139P.
     23-SEP-1999; 99US-0155486P.
PR
     24-SEP-1999; 99US-0155659P.
PR
     28-SEP-1999; 99US-0156458P.
PR
     29-SEP-1999; 99US-0156596P.
04-OCT-1999; 99US-0157117P.
05-OCT-1999; 99US-0157753P.
PR
PR
PR
PR
     06-OCT-1999; 99US-0157865P.
     07-OCT-1999; 99US-0158029P.
PR
PR
     08-OCT-1999; 99US-0158232P.
PR
     12-OCT-1999; 99US-0158369P.
     13-OCT-1999; 99US-0159293P.
PR
PR
     13-OCT-1999; 99US-0159294P.
     13-OCT-1999; 99US-0159295P.
PR
     14-OCT-1999; 99US-0159329P.
PR
     14-OCT-1999; 99US-0159330P.
14-OCT-1999; 99US-0159331P.
14-OCT-1999; 99US-0159637P.
PR
PR
PR
PR
     14-OCT-1999; 99US-0159638P.
PR
     18-OCT-1999; 99US-0159584P.
     21-OCT-1999; 99US-0160741P.
PR
     21-OCT-1999; 99US-0160767P.
PR
PR
     21-OCT-1999; 99US-0160768P.
PR
     21-OCT-1999; 99US-0160770P.
     21-OCT-1999; 99US-0160814P.
     21-OCT-1999; 99US-0160815P.
     22-OCT-1999; 99US-0160980P.
PR
     22-OCT-1999; 99US-0160981P.
PR
     22-OCT-1999; 99US-016098PP.
25-OCT-1999; 99US-0161404P.
25-OCT-1999; 99US-0161405P.
25-OCT-1999; 99US-0161406P.
PR
PR
PR
PR
PR
     26-OCT-1999;
                      99US-0161359P.
PR
     26-OCT-1999; 99US-0161360P.
PR
     26-OCT-1999; 99US-0161361P.
PR
     28-OCT-1999; 99US-0161920P.
PR
     28-OCT-1999; 99US-0161992P.
```

```
PR
    28-OCT-1999;
                   99US-0161993P.
PR
    29-OCT-1999;
                   99US-0162142P.
 Query Match
                         83.4%; Score 316; DB 3; Length 324;
                         100.0%; Pred. No. 8.6e-35;
 Best Local Similarity
 Matches
           61; Conservative
                                0; Mismatches
                                                      Indels
                                                                0; Gaps
                                                                            0;
                                                  0;
          12 LEATSLNPVDWKIQKGMIRPFLPRKFPCIPATDVAGEVVEVGSGVKNFKAGDKVVAVLSH 71
Qу
              Db
          35 LEATSLNPVDWKIQKGMIRPFLPRKFPCIPATDVAGEVVEVGSGVKNFKAGDKVVAVLSH 94
          72 L 72
Qy
Db
          95 L 95
RESULT 3
AAG39982
    AAG39982 standard; protein; 329 AA.
XX
AC
    AAG39982;
XX
DT
    18-OCT-2000 (first entry)
XX
DE
    Arabidopsis thaliana protein fragment SEQ ID NO: 49546.
XX
    Protein identification; signal transduction pathway; metabolic pathway;
KW
    hybridisation assay; genetic mapping; gene expression control; promoter;
KW
KW
    termination sequence.
XX
OS
    Arabidopsis thaliana.
XX
PN
    EP1033405-A2.
XX
PD
    06-SEP-2000.
XX
PF
    25-FEB-2000; 2000EP-00301439.
XX
PR
    25-FEB-1999;
                   99US-0121825P.
    05-MAR-1999;
                   99US-0123180P.
PR
    09-MAR-1999;
PR
                   99US-0123548P.
PR
    23-MAR-1999;
                   99US-0125788P.
PR
    25-MAR-1999;
                   99US-0126264P.
PR
    29-MAR-1999;
                   99US-0126785P.
PR
    01-APR-1999;
                   99US-0127462P.
                   99US-0128234P.
PR
    06-APR-1999;
                   99US-0128714P.
PR
    08-APR-1999;
PR
    16-APR-1999;
                   99US-0129845P.
PR
    19-APR-1999;
                   99US-0130077P.
    21-APR-1999;
                   99US-0130449P.
PR
PR
    23-APR-1999;
                   99US-0130510P.
    23-APR-1999;
PR
                   99US-0130891P.
                   99US-0131449P.
PR
    28-APR-1999;
    30-APR-1999;
                   99US-0132048P.
PR
PR
    30-APR-1999;
                   99US-0132407P.
PR
     04-MAY-1999;
                   99US-0132484P.
     05-MAY-1999;
PR
                   99US-0132485P.
PR
    06-MAY-1999;
                   99US-0132486P.
PR
    06-MAY-1999;
                   99US-0132487P.
PR
    07-MAY-1999;
                   99US-0132863P.
PR
    11-MAY-1999;
                   99US-0134256P.
```